Patent claims

1. An electronic operating device for operating one or more gas discharge lamps which contain filaments, the operating device having the following features:

- an AC voltage generator (G3) which feeds an AC voltage into a load circuit,
- a load circuit which contains at least one lamp and is designed such that the phase of the current which flows in the load circuit is determined with reference to the applied AC voltage, essentially by at least one component which conducts a current which flows through the filaments, and
- a device for measuring the phase of the current, which flows in the load current, with reference to the applied AC voltage

wherein the operating device is disconnected as soon as the above-named device for measuring the phase detects a phase angle which violates a prescribed limiting value.

2. The operating device as claimed in claim 1, wherein the device for measuring the phase carries out a time measurement between the instant of the zero crossing of the AC voltage supplied by the AC voltage generator (G3) and the instant of the zero crossing of the load circuit current.

3. The operating device as claimed in claim 1, wherein the component whose current flows through the filaments is a capacitor (C31).

4. An electronic operating device for operating one or more gas discharge lamps which contain filaments, the operating device having the following features:

- an AC voltage generator (G3) which feeds an AC voltage into a load circuit,
- an input (B) at the above AC voltage generator (G3), the operating device being disconnected if a voltage which violates a prescribed limiting value is present at this input (B);

wherein the load circuit contains an optocoupler whose input current (Jx) flows through the filaments, and the output of the optocoupler triggers disconnection of the operating device at the input (B) of the AC voltage generator (G3) if the input current of the optocoupler (Jx) becomes negligibly small.

5. The operating device as claimed in claim 4, wherein the operating device contains a disconnection logic circuit (SD) which contains at least one trigger and a timing element and supplies a signal which disconnects the operating device via the input (B) of the AC voltage generator (G3).

6. The operating device as claimed in claim 5, wherein the disconnection logic circuit (SD) has an input (A) which is connected to the output of the optocoupler.